AMENDMENTS TO THE CLAIMS

This is a complete and current listing of the claims, marked with status identifiers in parentheses. The following listing of claims will replace all prior versions and listings of claims in the application.

1. (Currently Amended) A method for generating images in computed tomography using 3D image reconstruction, the method comprising:

scanning an examination object by moving a focus on a spiral focal track about the examination object using a conical beam emanating from the focus and using a detector for detecting the beam, the detector supplying output data corresponding to the detected radiation; and

reconstructing image voxels from the scanned examination object from the output data and reproducing attenuation coefficients of the respective voxel, each image voxel being reconstructed separately from projection data that include a projection angular range of at least 180°, <u>whereby a measured value filtered for each image voxel is accumulated only on the respective voxel,</u> and an approximate weighting taking place for each voxel considered in order to normalize the projection data used relating to the <u>respective</u> voxel.

2. (Previously Presented) The method as claimed in claim 1, wherein reconstructing the image voxels includes using all the detector data along a straight line that runs through the cone beam projection of each image voxel and is aligned in a direction of the projection of the spiral tangent.

3. (Previously Presented) The method as claimed in claim 1, wherein the image data of the detector image are subjected to a cosine weighting for compensating oblique radiation.

4. (Previously Presented) The method as claimed in claim 1, wherein data not directly available are obtained from the available data by interpolation from neighboring detector data.

5. (Previously Presented) The method as claimed in claim 1, wherein during a weighting for compensating a data redundancy, two measuring beams (Sa, Sb) are regarded as redundant precisely when holding that: ($\theta_a = (2k\cdot\pi + \theta_b$ and $p_a = p_b$) or ($\theta_a = (2k + 1)\cdot\pi + \theta_b$ and $p_a = -p_b$), where

k represents an arbitrary natural number,

θ represents a projection angle, and

p represents a distance from a z-axis.

6. (Previously Presented) The method as claimed in claim 5, wherein the redundant data are multiplied by generalized Parker weights.

7. (Previously Presented) The method as claimed in claim 1, wherein a ramp filter that is manipulated with the aid of a smoothing window is applied to the normalized projection data.

8. (Previously Presented) The method as claimed in claim 1, wherein a distance weighting is performed for the purpose of 3D back projection into the voxel considered.

9. (Previously Presented) The method as claimed in claim 1, wherein the method is used for cardiac computer tomography by at least one of selecting, weighting and sorting measured data in accordance with the movement phases of an examined heart.

10. (Previously Presented) A CT unit for scanning an examination object, comprising:

a beam emanating from at least one focus and a detector array having a multiplicity of distributed detector elements for detecting the rays of the beam, the at least one focus being movable relative to the examination object on at least one focal track that runs around the examination object and a detector array situated opposite;

means for collecting detector data, filtering and 3D back projection; and

means for processing the collected data being fashioned in such a way to carry out the method as claimed in claim 1.

11. (Previously Presented) Computer program product including program elements that during operation in a CT unit, execute the method as claimed in claim 1.

12. (Previously Presented) The method as claimed in claim 2, wherein the image data of the detector image are subjected to a cosine weighting for compensating oblique radiation.

13. (Previously Presented) The method as claimed in claim 1, wherein data not directly available are obtained from the available data by interpolation from neighboring detector data.

14. (Previously Presented) The method as claimed in claim 2, wherein during the weighting for compensating a data redundancy, two measuring beams (Sa, Sb) are regarded as redundant precisely when holding that: ($\theta_a = (2k\cdot\pi + \theta_b$ and $p_a = p_b$) or ($\theta_a = (2k + 1)\cdot\pi + \theta_b$ and $p_a = -p_b$), where

k represents an arbitrary natural number,

θ represents a projection angle, and

p represents a distance from a z-axis.

15. (Previously Presented) The method as claimed in claim 14, wherein the redundant data are multiplied by generalized Parker weights.

16. (Currently Amended) A CT unit for scanning an examination object, comprising:

a beam emanating from at least one focus and a detector array having a multiplicity of distributed detector elements for detecting the rays of the beam, the at least one focus being movable relative to the examination object on at least one focal track that runs around the examination object and a detector array situated opposite; and

means for reconstructing image voxels from the scanned examination object from the output data and reproducing attenuation coefficients of the respective voxel, each image voxel being reconstructed separately from projection data that include a projection angular range of at least 180°, whereby a measured value filtered for each image voxel is accumulated only on the respective voxel, and an approximate weighting taking place for each voxel considered in order to normalize the projection data used relating to the respective voxel.

17. (New) The method as claimed in claim 1, wherein the projection angular range is a range from at least 180° to less than 360°.